

Serial No. 09/932,330
Reply to Office Action of December 12, 2005

REMARKS/ARGUMENTS

Claims 1-36 were presented for examination and are pending in this application. In an Official Office Action dated December 12, 2005, claims 1-36 were rejected. The Applicants thank the Examiner for his consideration and address the Examiner's comments concerning the claims pending in this application below.

Applicants herein amend claims 1-2, 5-6, 13-14, 17-18, 25-26, 29, and 30 and respectfully traverse the Examiner's prior rejections. No claims are currently canceled and no new claims are presently added. These changes are believed not to introduce new matter, and their entry is respectfully requested. The claims have been amended to expedite the prosecution and issuance of the application. In making this amendment, Applicants have not and are not narrowing the scope of the protection to which the Applicants consider the claimed invention to be entitled and do not concede, directly or by implication, that the subject matter of such claims was in fact disclosed or taught by the cited prior art. Rather, Applicants reserve the right to pursue such protection at a later point in time and merely seek to pursue protection for the subject matter presented in this submission.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding rejections and withdraw them.

I. Double Patenting.

Claims 1, 3, 4, 9, 10, 11, 13, and 23 were provisionally rejected under the judicially created doctrine of Double Patenting over co-pending claims 1, 3, 4, 7, 10, 13, 17, 18, and 20 of U.S. Patent Application No. 10/869,199.

Although the claims as presented are believed to be distinct with respect to U.S. Patent Application No. 10/869,199, a terminal disclaimer will

Serial No. 09/932,330
Reply to Office Action of December 12, 2005

be supplied together with the required fee upon indication of allowable subject matter in the present case and U.S. Patent Application No. 10/869,199. Accordingly, it is respectfully requested that the double patenting rejection be held in abeyance.

II. 35 U.S.C. § 112 Rejection of Claims

Claim 5, 6, 17, and 18 were rejected under 35 U.S.C. § 112 second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention. Specifically, the aforementioned claims contain the trademark/trade name RIMM or Rambus™ In-Line Memory Module. The aforementioned claims (and claims 29 and 30) have been amended to remove the trademark Rambus™ leaving the limitations generic as to an in-line memory module serial interface. The Applicants request the rejection be withdrawn.

III. 35 U.S.C. § 103(a) Obviousness Rejection of Claims

Claims 1-4, 7-10, 12-16, and 19-24 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,052,134 ("Foster") in view of U.S. Patent No. 4,972,457 ("O'Sullivan"). Applicants respectfully traverse these rejections in light of the aforementioned remarks and respectfully requests reconsideration.

MPEP §2143 provides:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teaching. Second,

Serial No. 09/932,330
Reply to Office Action of December 12, 2005

there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The cited references fail to teach or suggest all of the limitations recited in the claims as currently amended. For example, independent claim 1 recites, (and claims 13 and 25 in varying language) among other things, "a processor element associated with said at least one memory module slot for providing a direct data connection between an external device coupled thereto and the memory module slot enabling data exchange directly between the external device and the memory module bus." Foster in view of O'Sullivan fails to disclose a processor associated with a memory module slot for the purpose of providing a direct data connection between an external device and the memory module bus. Claim 1 also recites that the connection provided by the associated processor enables data exchange directly between the external device and the memory module bus. Foster In view of O'Sullivan fails to teach this limitation as well.

O'Sullivan appears to teach a hybrid communications control unit that may be "installed in a memory expansion or other expansion slot of [a] computer." O'Sullivan Col 7, lines 33-35. O'Sullivan does not further define the meaning of the term expansion slot. A computer expansion slot typically allows a circuit board or card such as the hybrid communications control unit of O'Sullivan to connect to the motherboard. The most common expansion slot is a peripheral component interconnect (PCI) bus slot. There are other specialized expansion slots found in computers such as an accelerated graphic port or a 16 bit expansion port. All of these slots are significantly different from the memory module slots associated with the memory module bus.

Serial No. 09/932,330
Reply to Office Action of December 12, 2005

As disclosed and taught by O'Sullivan, the hybrid communications control unit possesses a computer interface 78 for interacting with the portable computer 90. As is known to one skilled in the art, the PCI bus interacts with an attached peripheral component (computer interface) to exchange data transfer protocols including data exchange rates and latencies. The flexibility of the PCI bus allows components such as the hybrid communications control unit of O'Sullivan and others to interface with a computer despite data design and communication rate variances.

At the time of the Applicants' invention, one skilled in the art would not read O'Sullivan to suggest that the hybrid communications control unit would connect to the memory module bus so as to provide, as claimed by the Applicants, a direct exchange of data between an external device and the memory module bus. This is evident from statements and the figures found in O'Sullivan itself. O'Sullivan teaches that the microprocessor associated with the hybrid communication control unit can be eliminated if the card is installed in a computer. O'Sullivan states, "Since the hybrid communications control unit 68 may be installed in the computer 90, it should be recognized that, for so me [sic] applications, the microprocessor 70 can be performed by the computer 90." O'Sullivan Col 7, lines 44-46. The role of the processor in O'Sullivan is to convert analog signals to digital and vice versa when operating apart from the computer processor. The processing performed by the Applicants' invention that allows and manages a direct exchange of data between an external device and the memory module bus cannot be accomplished by the microprocessor of the computer. O'Sullivan therefore teaches a component possessing a processor that is primarily used as a communications port to convert data prior to its introduction to the computer via a computer interface and PCI bus rather than enable the direct transfer of

Serial No. 09/932,330
Reply to Office Action of December 12, 2005

data from an external device directly to the memory bus as does the Applicants' invention.

Memory module slots associated with the memory module bus possess specific data transfer and latency requirements that severely limits component compatibility. O'Sullivan is silent on its ability to surmount this formidable challenge implying that such an application was not contemplated. The long felt need to provide an interface between main memory and an external device and lack of such an interface prior to the Applicants' invention is also evidence that one skilled in the art would not look to O'Sullivan, issued in 1990, to couple external devices directly to the memory module bus.

For clarification, claim 1 now recites that the processor associated with the memory module slot provides a direct connection between the memory module slot and an external device so as to enable a direct exchange of data between the external device and the memory module bus. The external device does not communicate via the PCI bus or other expansion slot but is directly linked to the memory bus. This limitation is neither taught or suggested by Foster or O'Sullivan. For at least these reasons claims 1, 13, and 25 are deemed to be patentable over Foster in view of O'Sullivan. Withdrawal of the rejections and reconsideration is respectfully requested.

Claims 2-12, 14-24, and 26-36 depend on claims 1, 13, and 25 respectively and are, for at least the same reasons, patentable over Foster in view of O'Sullivan. As the Examiner's rejections of the aforementioned dependent claims in view of additional art (Whittaker, Tetrick, and Chiles) fail to teach or suggest a processor associate with the memory module that provides for a direct connection between the memory module bus and an external device, claim 2-12, 14-24, and 26-36 are also deemed patentable. Reconsideration and withdrawal of the pending rejections is requested.


Serial No. 09/932,330
Reply to Office Action of December 12, 2005

In view of all of the above, the claims are now believed to be allowable and the case in condition for allowance which action is respectfully requested. Should the Examiner be of the opinion that a telephone conference would expedite the prosecution of this case, the Examiner is requested to contact Applicants' attorney at the telephone number listed below.

No fee is believed due for this submittal. However, any fee deficiency associated with this submittal may be charged to Deposit Account No. 50-1123.

Respectfully submitted,

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